TRAC-Monterey Staff Notes
April 2006

I. Urban Operations Modeling and Simulation

A) Urban Operations Focus Area Collaborative Team, Project Code 623

Coordinated for final outbriefs from FY05 UO FACT project teams. Two FY06 UO FACT projects have received funding: Acoustic Detection Algorithms (ERDC-CRREL) and Small Unmanned Ground Vehicle Models and Data (ERDC-WES). Continuing to pursue funding for other FY06 UO FACT projects from other sources. Finalized critical research area development for the FY07 UO FACT call-for-proposals; awaiting approval by ACR leadership. POCs are LTC John Willis, DSN 756-7580, email: John-Willis@us.army.mil and LTC Jeff Schamburg, DSN 756-3086, email: Jeffrey-Schamburg@us.army.mil

B) Common Maneuver Networks (CMN), and Mobility Common Operational Picture (MCOP), Project Code 660

MCOP team presented project paper entitled, "Toward Establishing the Mobility Common Operational Picture: Needs Analysis and Ontology Development in Support of Interoperability," at the Spring SIW in Huntsville, AL. Current efforts include establishing standard formats, reporting procedures, TTPs, and tools for route reconnaissance and other ground mobility operations and development of ground maneuver network navigation algorithms. Additional effort seeks to extend the Pathfinder computer code to include the capability to generate an implicit network derived from gridding the space between network edges and bounded by edge widths. POCs are LTC John Willis, DSN 756-7580, email: John-Willis@us.army.mil and MAJ Darryl Ahner, DSN 756-7574, email: Darryl.Ahner@us.army.mil

II. Advancements in Simulation and Operations Research Methodologies

A) Rapid Equipping Force (REF) Analysis Methodology, Project Code 670

Conducted interviews with REF operations, acquisition, and S&T personnel and collected key documentation to establish current organizational design and processes and continue development of analysis methodology. Continued building project research team to include appropriate Subject Matter Experts (SMEs) from NPS. Assisted development of a proposal for AoA of Warfighter Hearing Protection and Enhancement devices. POCs are LTC John Willis, DSN 756-7580, email: John-Willis@us.army.mil and LTC Jeff Schamburg, DSN 756-3086, email: Jeffrey-Schamburg@us.army.mil

B) Multi-Purpose Enterprise Simulation Suite (MPESS), Project Code 673

Continued functional analysis and began development of alternative concepts for Future Army M&S Strategy. Established roadmap for identification of requirements for conceptual and data exchange models (e.g. C2IEDM), establishing cost estimates for MPESS and alternatives, and providing input to an implementation plan for the recommended concept. Continued building project research team to include appropriate

Subject Matter Experts (SMEs) from NPS. POCs are LTC John Willis, DSN 756-7580, email: John-Willis@us.army.mil and Mr. Jack Jackson, DSN 756-3087, email: Leroy.Jackson@us.army.mil

C) Soldier Representation in M&S, Project Code 615

As discussed in the FFW project below, we are beginning to implement a plan to configure the Infantry Warrior Simulation (IWARS) on a locally-installed high-speed computing cluster. This capability will allow us to support a wide-range of Soldier-related projects using robust experimental designs. We are also continuing efforts to solicit NPS faculty and student participation in Soldier modeling related projects in a variety of disciplines. POC is MAJ Eric Tollefson, DSN 756-7578, email: Eric.Tollefson@us.army.mil

D) Future Force Warrior (FFW) Capabilities Analysis, Project Code 220

CPT Earl Richardson continued to explore the Distributed Capabilities of FFW through the IWARS simulation program. He made great strides in developing a scenario within the latest release of IWARS (version 0.9) and is nearly ready to begin record runs. In conjunction with NPS faculty, he began to develop code to run IWARS on the locally-installed high-speed computing cluster from the Maui High Performance Computing Center. He will travel to the Natick Soldier Center in May to refine his scenario. POC is MAJ Eric Tollefson, DSN 756-7578, email Eric.Tollefson@us.army.mil

MAJ Jon Alt refined his FFW simulation scenario based on initial runs and analysis, submitted his final set of scenarios and design of experiments to the Maui High Performance Computing Center (MHPCC) for record runs, and is analyzing data sets from those runs. His work uses Pythagoras to model FFW TTPs to draw insights about the effects of proposed FFW capabilities on tactics. POC is MAJ Eric Tollefson, DSN 756-7578, email Eric.Tollefson@us.army.mil

E) Dynamic Sustainment Modeling in Support of Battle Command Analysis, Project Code 659

Conducting an Experimental Design analysis using data from the TRAC-LEE FCS study to examine how different logistical factors affect FBCT combat power. This analysis will provide insight on the usefulness of the DS model and identify potential model improvements. Continuing to integrate Dynamic Sustainment into COMBAT XXI. Released Dynamic Sustainment version 1.3.0. POC is MAJ Aaron Van Alstine, DSN 756-7575, email Aaron.VanAlstine@us.army.mil

E) Logistics Battle Command M & S, Project Code 676

Logistics Battle Command is a recently approved and supported LOG FACT project. Conducting initial problem definition work; our vision is an extension of Dynamic Sustainment that models demand of class III, V, and I and geospatially represents the supply network when integrated with a combat simulation. Coordinating with TRAC-LEE for the kick-off meeting in May. POC is MAJ Aaron Van Alstine, DSN 756-7575, email Aaron.VanAlstine@us.army.mil

F) Objective System (OOS) Behavior Model Analysis, Project Code 666

Level of effort has been expanded through the end of June, 2006. Verification is complete of an additional composite behavior (Conduct Air Reconnaissance). Continuing to verify subsequent composite behaviors. POC is MAJ Drew Fletcher, DSN 756-7579, email andrew.fletcher@us.army.mil

G) M&S/OR Advancements, Project Code 639

CPT Mike Martin and MAJ Jon Ellis completed an agent simulation application to support their analysis on modeling teamwork in military simulations. CPT Martin and MAJ have started conducting experiments with the model. POC is Mr. Jack Jackson, DSN 756-3087, email: Leroy.Jackson@us.army.mil

Began planning for the installation of a High Performance Computing (HPC) cluster at TRAC-Monterey. The cluster will be used to conduct experimental runs of a variety of simulations to include IWARS and COMBAT XXI. POC is Mr. Jack Jackson, DSN 756-3087, email: Leroy.Jackson@us.army.mil

III. Elements of Combat Power

A) Dynamic Allocation of Fires and Sensors (DAFS), Project Code 645

Implementing new, more user-friendly Excel or database input interface to DAFS. Implementing DAFS output to database instead of csv files. Coordinating for DAFS training in May and June. POC is MAJ Darryl Ahner, DSN 756-7574, email: Darryl.Ahner@us.army.mil

B) UAV Mix Tool for Force Modularity, Project Code 309

Continued support of the Army UAV Mix Analysis Study Plan with the Assignment Scheduling Capability for UAVs (ASC-U) Simulation Tool. Implemented selectable sensor packaged for UAVs and representation of higher level sensor coverage in ASC-U. Continued development of a users manual and documentation for DAFS-UAV(an ASC-U derivative) training scheduled for 16-18 May 06. Coordinated supporting efforts of MAJ Chris Nannini to address optimization of intervals and development of a design of experiments tool for ASC-U. POC is MAJ Darryl Ahner, DSN 756-7574, email: Darryl.Ahner@us.army.mil

C) Homeland Security National Exercise Program Lessons Learned Development, Project Code 647

Jessie Hernandez and Micheal Baxter of TRAC-WSMR installed EPiCS Lab at TRAC-MTRY and trained MAJ Drew Fletcher, MAJ Darryl Ahner, Harold Yamuchui and Doris Turnage. Provided EPiCS demos to Naval Postgraduate School Faculty, Center of Homeland Security and Defense Faculty, Roland and Associates Inc and Leadership Monterey Peninsula. POC is Ms. Doris Turnage, DSN 756-3732, email: Doris.M.Turnage@us.army.mil

MAJ Jon Roginski continued work on a multi agent simulation of a terrorist attack (large bomb) in the Baltimore Inner Harbor. The simulation currently models police, fire, and medical response in the first hour after the terrorist attack. The scenario and design of experiments is complete. Production runs of this model are being sent to

the Maui High Performance Computing Center, following the installment of the latest version of Pythagoras (1.10) at MHPCC on 4 May. POC is Ms. Doris Turnage, DSN 756-3732, email: Doris.M.Turnage@us.army.mil

D) DARPA/PEO STRI Battle Command Experiment 7, Project Code 421

Continued post experiment analysis. Wrote the first draft of the final report. Members of the analysis team visited the facility in Orlando and completed two days of process tracing to support their analysis. POC is Mr. Jack Jackson, DSN 756-3087, email: Leroy.Jackson@us.army.mil

E) Land Warrior/Mounted Warrior DOTMLPF Assessment, Project Code 105

MAJ Tollefson continued to collect data at the Yakima Training Center, WA, as part of the overall team's data collection effort during 1-2 CR's platoon external evaluations (EXEVALS). The following week, MAJ Tollefson participated in the Land Warrior / Mounted Warrior training conducted by Omega Training at Fort Lewis. Also participated in discussions and teleconferences related to the post-New Equipment Training (NET) surveys being developed by ARL-HRED.

TRAC-MTRY has been identified as the lead for the LW/MW DOTMLPF Assessment survey effort to occur in the Fall, 2006, timeframe. As part of that, we have built a team of three PhD faculty members to assist in survey design, administration, and analysis. POC is MAJ Eric Tollefson, DSN 756-7578, email Eric.Tollefson@us.army.mil

F) Individual Soldier Close Combat Skills and Activities, Project Code 525

Met with AMSAA to coordinate TRAC role in this project. Tentatively agreed to provide experimental design input, on-site experimental support (if possible), and post-experiment data analysis. Began reviewing AMSAA's experimental plan and providing input and recommendations. POC is MAJ Eric Tollefson, DSN 756-7578, email Eric.Tollefson@us.army.mil

G) Modeling Close Range, Quick Reaction Engagements, Project Code 675

MAJ Tollefson met with NPS Subject Matter Experts (SMEs) to create a team in support of this project. Coordinated for a United States Military Academy (USMA) cadet to work on this project in late May. Project currently in the problem definition phase. POC is MAJ Eric Tollefson, DSN 756-7578, email Eric.Tollefson@us.army.mil